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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,882	12/03/2001	Sheng-Hsin Hu	KCX-439 (15571)	7987
22827	7590	03/24/2005	EXAMINER	
DORITY & MANNING, P.A. POST OFFICE BOX 1449 GREENVILLE, SC 29602-1449			CHIN, PETER	
			ART UNIT	PAPER NUMBER
			1731	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/005,882

Applicant(s)

HU ET AL.

Examiner

Peter Chin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16,19,21-28 and 30-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16,19,21-28,30-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-3,5-16,19,21-24,26-28,30-36 and 38-46,2426-36,38-46 are rejected under 35 U.S.C. 103(a) as obvious over Phan et al (5,427,696 or 5,510,000) and Meisel et al (3,844,880), optionally with Phan et al (5,437,766).

Phan et al add cationic quaternary ammonium debonder, wet strength and dry strength resins to the multiply tissue pulp stock during paper formation. Columns 17 and 14 respectively of Phan et al '696 and '000 disclose dry strength latex binders of the type disclosed in Meisel et al. Meisel et al by specific example in column 3 uses a latex binder having a T_g of $+3^\circ$ C. The binder is added at the rate of 0.01-1% in Phan et al '696, column 16 and 0.01 to 3% in Phan et al '000. The debonder is added at a rate of 0.005 to 5%, columns 11 and 4 of Phan et al '696 and '000, respectively. As previously noted, the claimed cationic debonder is well known as evidenced by the Phan patents and Applicant's admission of prior art on pages 12 and 13 of the instant specification. It would have been obvious that the presence of a latex binder would obviously inhibit linting/sloughing to a greater degree than a sheet that does not have a latex binder since its presence strengthens the sheet. In any case, note that the present claims are open to the presence of the latex binder in all layers of the multilayer sheet. Should there be any reason to evidence the teaching of distributing the dry strength binder to the outer layer, Phan et al (5,437,766) teaches that it is advantageous to have the dry strength agent in the outer layer.

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2. Claims 4,25 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phan et al (5,427,696 or 5,510,000) and Meisel et al (3,844,880) in view of Larson et al (6,129,815) or Vinson et al (5,851,352).

It would have been obvious to employ the claimed glass transition temperature for latex binder in Phan et al since it is standard in the art to use latex binder having T_g of -30 to $+10^\circ\text{C}$.

3. Applicant's arguments have been considered but are deemed unpersuasive of patentability. In addition to the reasons given in the above rejections, there is no evidence to support the alleged unexpected properties of the claimed paper over the prior art. Applicant urges that Tables 7 and 8 in the present specification show a decrease in slough when a tissue product containing a latex binder is compared to one without. The prior art as a whole teaches the incorporation of a latex binder into the paper product and Phan ('766) teaches that the presence of the dry strength agent in the outer layer is desirable. It would be expected that a tissue containing the latex binder slough would decrease in view of the higher strength imparted by the latex binder over a tissue without it.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Chin whose telephone number is (571) 272-1186. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Peter Chin
Primary Examiner
Art Unit 1731